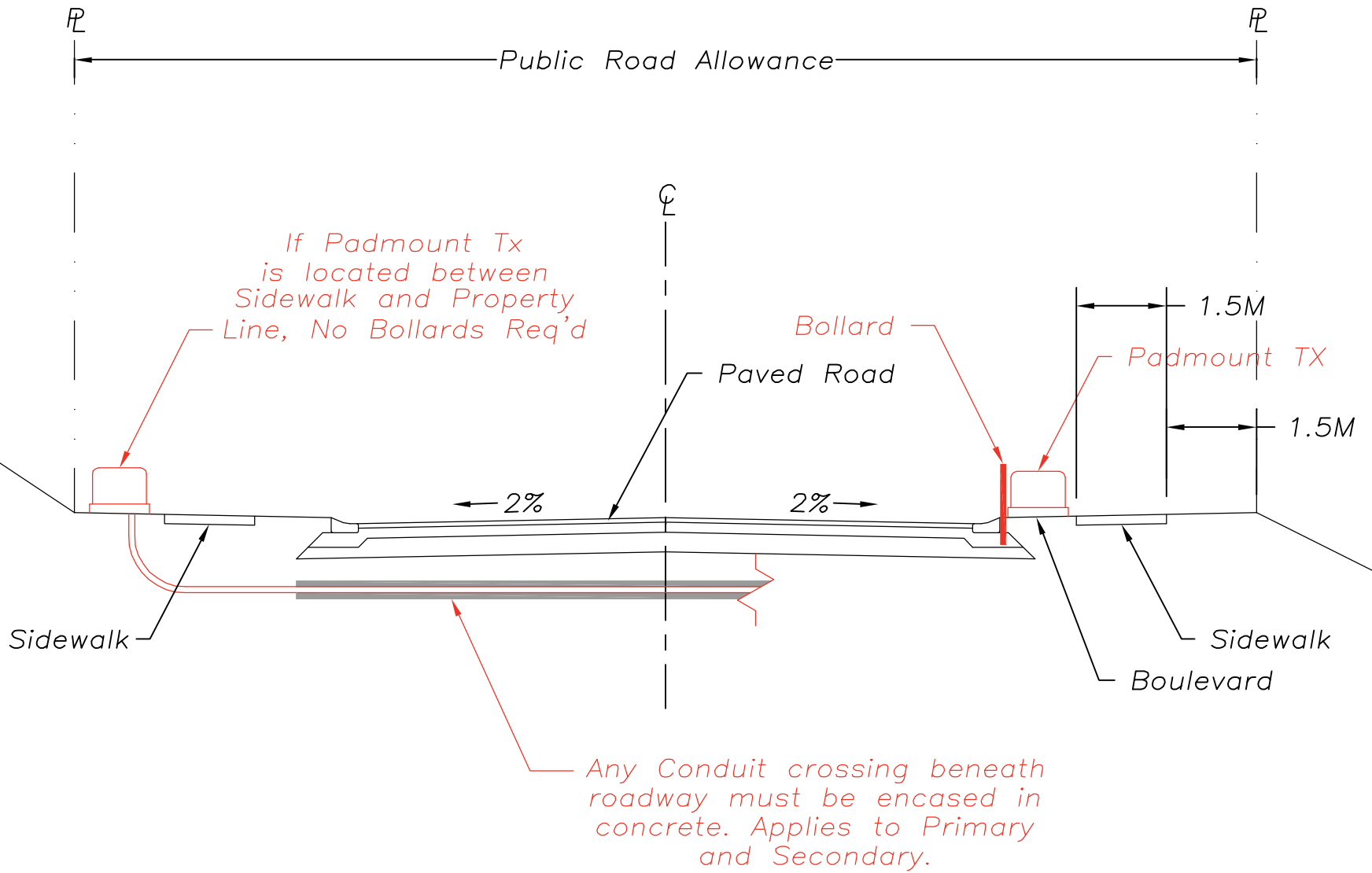




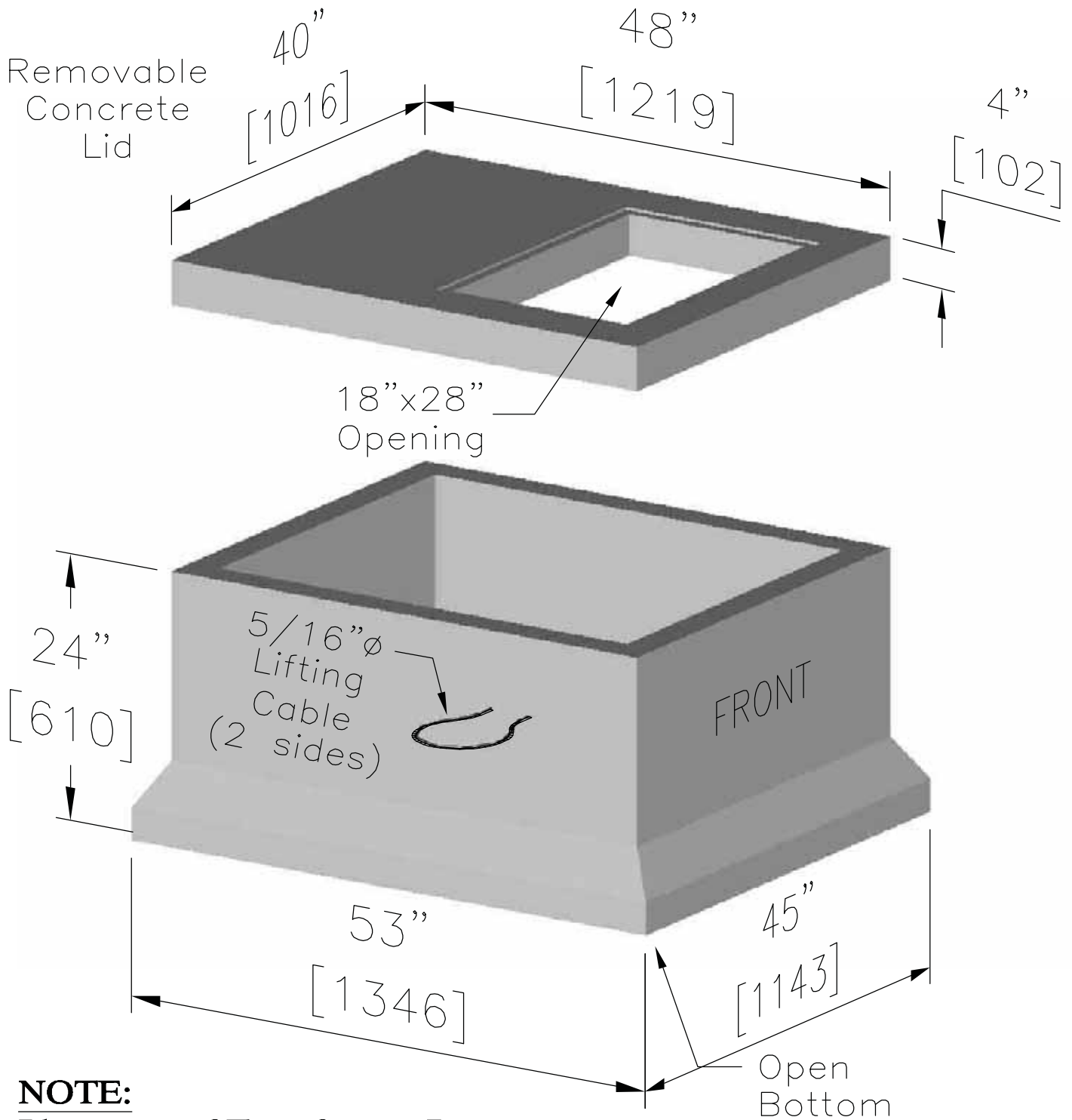
**Nelson Hydro Underground Standard
Typical Road Cross Section
Primary and Secondary Conduit**



DATE: 04/02/25 REV: 0

Road Section

DRAWING NO.



NOTE:
Placement of Transformer Bases and Pull Boxes to be determined by Nelson Hydro prior to any excavation, & Inspected prior to backfilling.

Nelson Hydro Stock # 073405

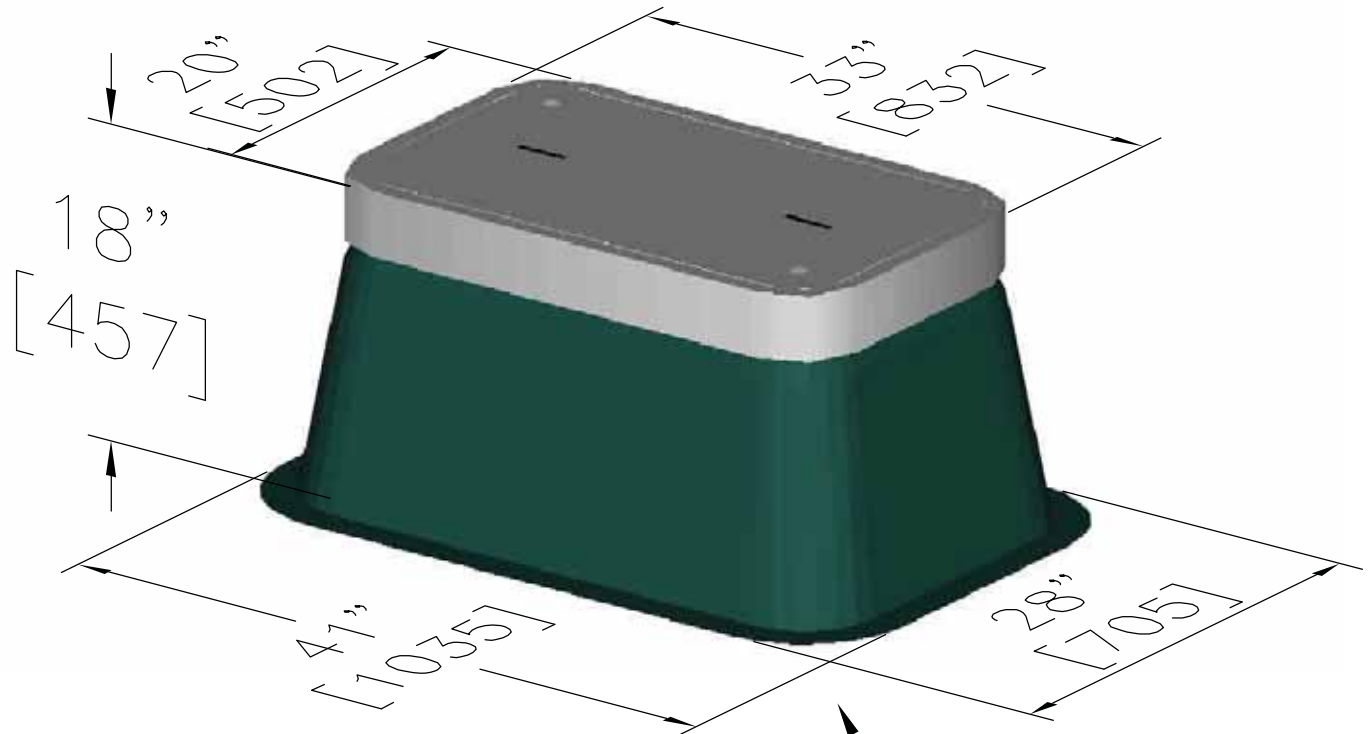


Nelson Hydro Underground Standard Single Phase Primary Transformer Precast Concrete Base w/Lid

DRAWING NO.	
Single Phase Base	
DATE: 07/02/05	REV: 0

NOTE: New stock secondary box has slightly different dimensions than that of box shown here.

Removable Bolt on Lid



NOTE:
Placement of Transformer Bases and Pull Boxes to be determined by Nelson Hydro prior to any excavation, & Inspected prior to backfilling.

Open Bottom

Nelson Hydro Stock # 073410



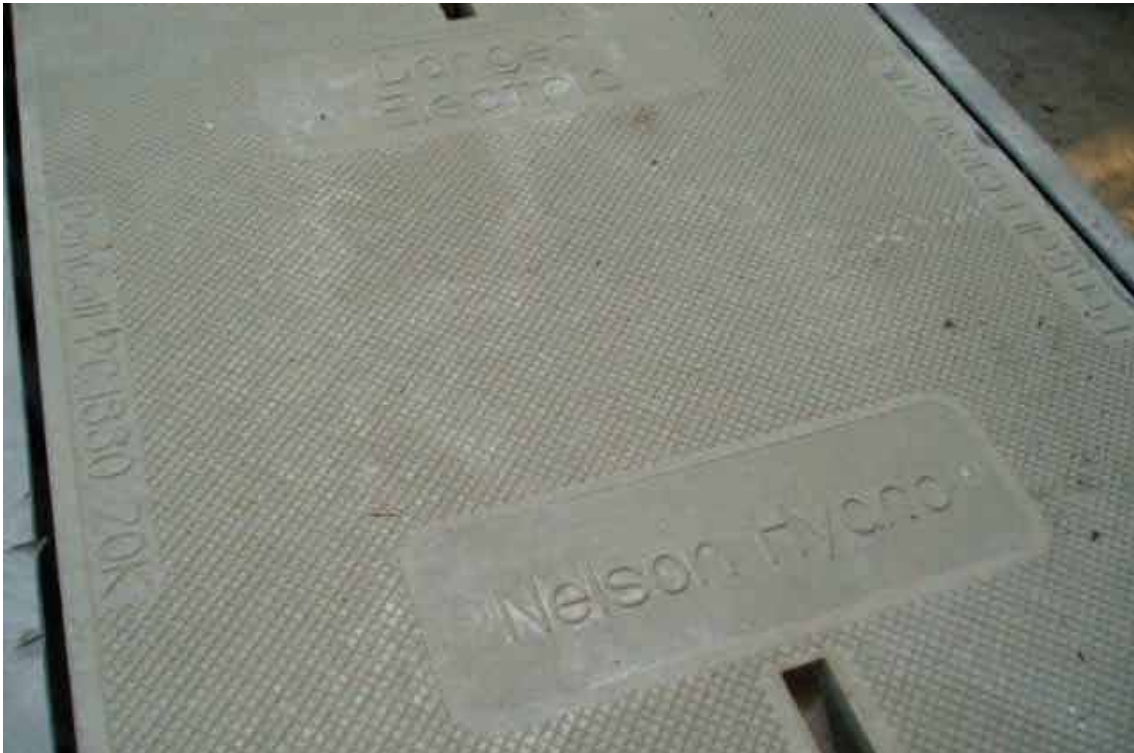
Nelson Hydro Underground Standard Secondary Pull Box

DRAWING NO.

Secondary Box

DATE: 07/02/05

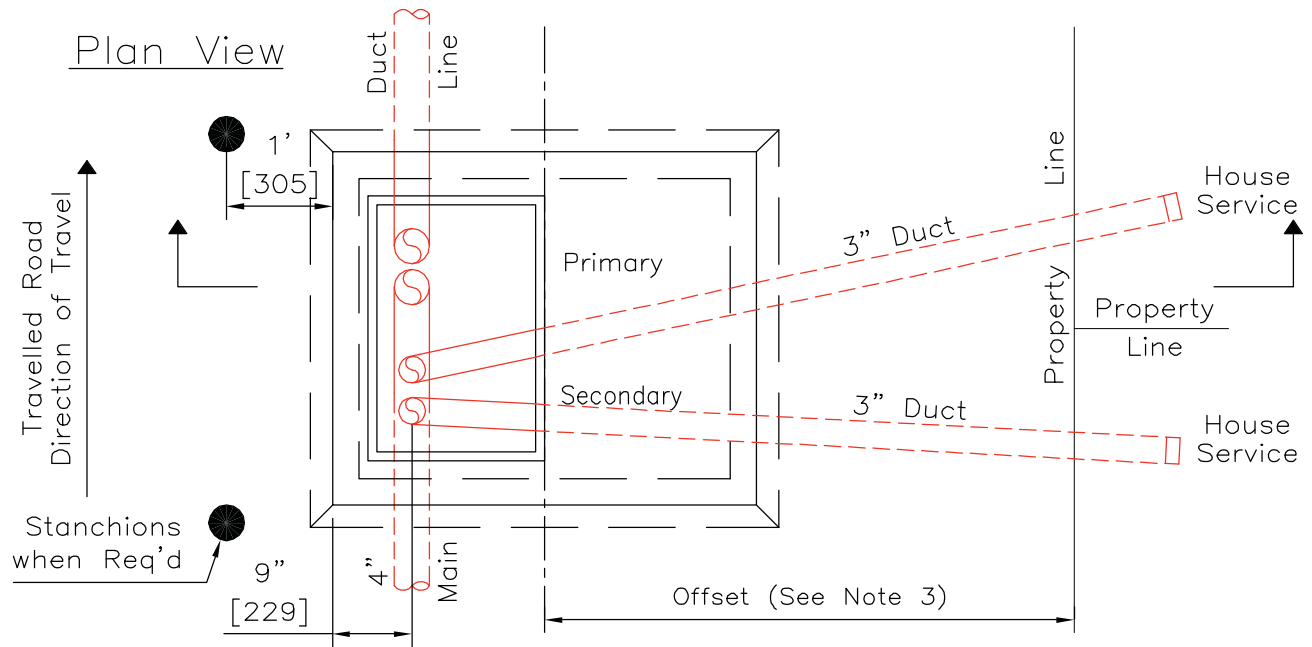
REV: 0



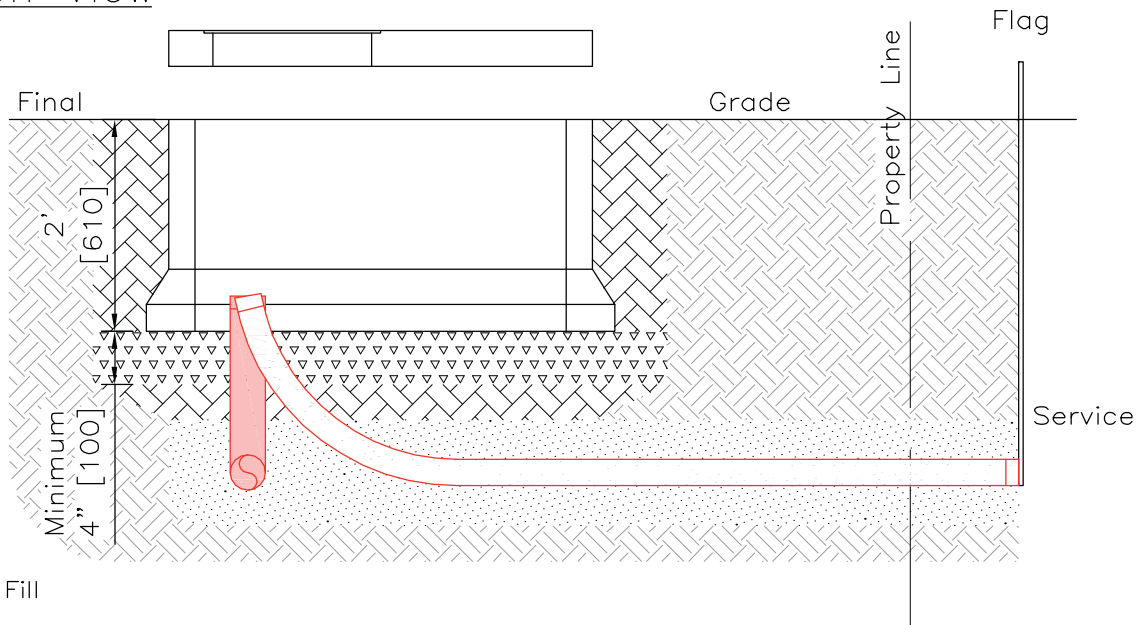
NOTE: New stock secondary box currently being used PenCell PC1830 20k
23" wide, 35" long, 18" deep
Open bottom for duct entry. Lid labeled for Nelson Hydro.



Plan View



Section View



-  Native Fill
- 1" (25) Drain Rock
-  Clean Compacted Fill
- 3/16" (5) Screened Compacted Sand

NOTE:
Placement of Transformer Bases and Pull Boxes to be determined by Nelson Hydro prior to any excavation, & Inspected prior to backfilling.

Notes:

- 1) For level grades, box to be set so that lid is 4" (100 mm) above final grade.
- 2) For Grounding detail see Single Phase Grounding.DWG
- 3) Standard Offset to be 5' (1.5 M) unless otherwise specified.
- 4) Extend conduit 2" - 4" (50-100 mm) into box.



Nelson Hydro Underground Standard Single Phase Primary Transformer Transformer Box Duct Entrance

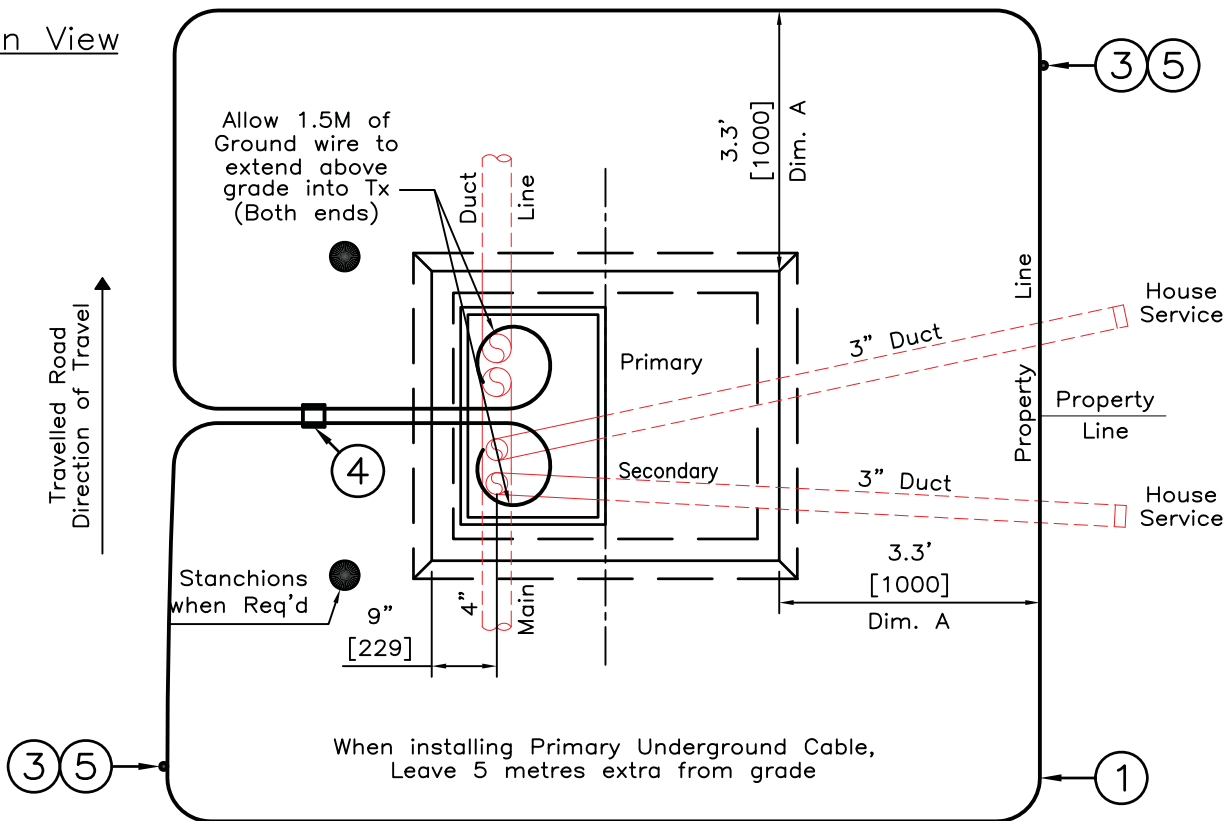
DRAWING NO.

Single Phase Base Layout

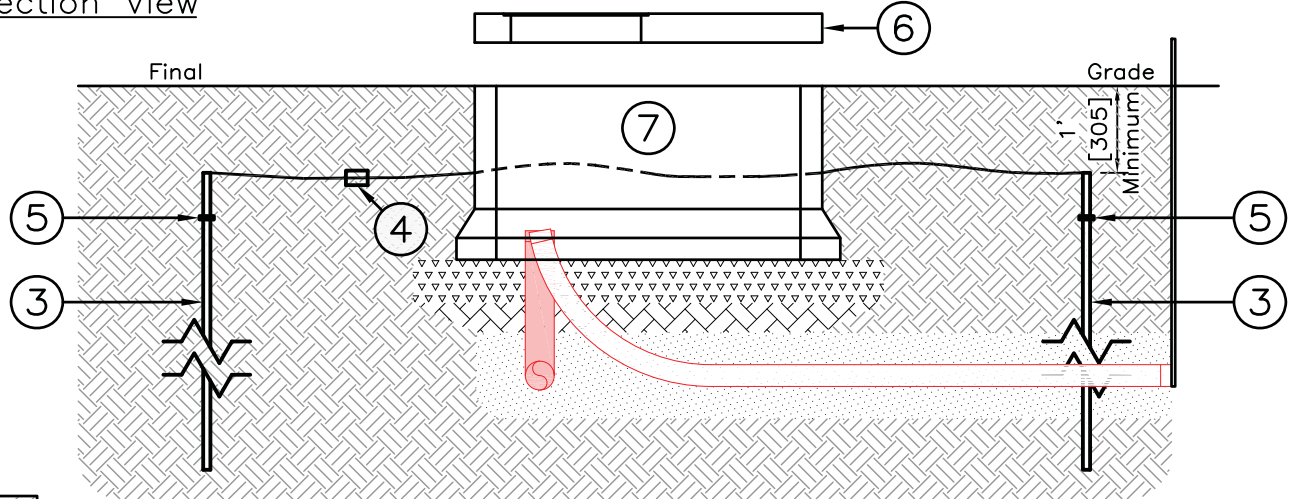
DATE: 07/02/05





REV: 0

Plan View



Section View



-  Native Fill
-  1" (25) Drain Rock
-  Clean Compacted Fill
-  3/16" (5) Screened Compacted Sand

Notes:

- 1) Ground Rod shall be installed prior to installing other utilities to avoid damage to other utilities.
- 2) For grades and duct placement see Single Phase Base Layout.DWG
- 3) Dimension 'A' 3'3" [1000]. This may be reduced to 1' 8" [500] by special permission only.
- 4) Top of ground rod must be driven to maintain a minimum finished depth of 12' [300].

7	1	073405	Box, Concrete, 48" x 40" x 24", Unistrut	Kon Kast Products Ltd #1031
6	1	073405	Lid, Concrete, 48" x 40" x 4"	Kon Kast Products Ltd #1038
5	2	17300141	Connector, 2/0 - 3/4" Ground Rod	Ampact #81228-1 or Burndy #GXW29C58
4	1	17308041	Connector, 2/0 - 2/0 Cu	Ampact #81231-1 or Burndy #GXW26C26
3	2	53824310	Rod, Ground, Copperweld 3/4" x 10'	
1	19M	74009430	Conductor, #2/0 - 19W, Bare	
Item	QTY	Stock #	Description	Notes



Nelson Hydro Underground Standard Single Phase Primary Transformer Grounding Detail

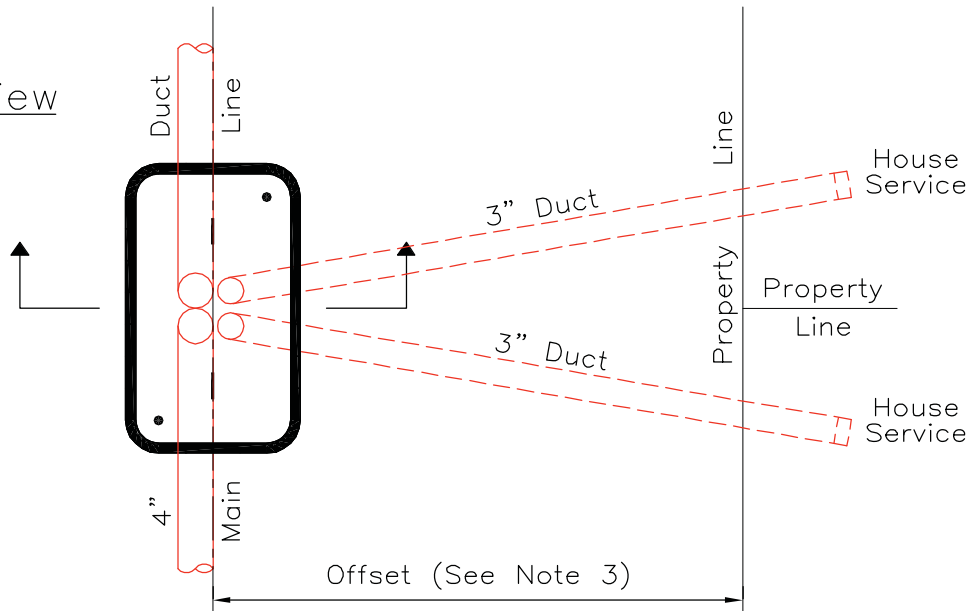
DRAWING NO.

Single Phase Grounding

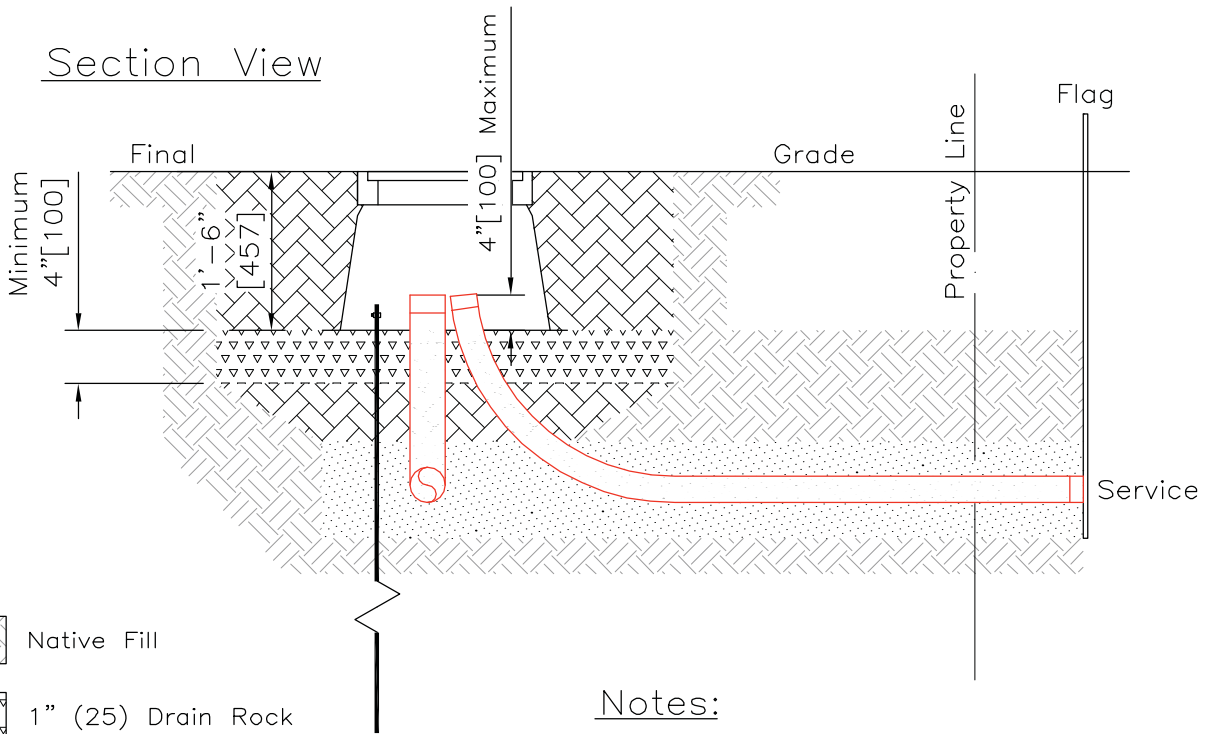
DATE: 08/10/15



REV: 0

Plan View



Section View



-  Native Fill
-  1" (25) Drain Rock
-  Clean Compacted Fill
-  3/16" (5) Screened Compacted Sand

NOTE:

Placement of Transformer Bases and Pull Boxes to be determined by Nelson Hydro prior to any excavation, & Inspected prior to backfilling.

Notes:

- 1) Center conduits in box. Box may be placed offset from center to avoid conflict with other utilities upon approval from Inspector.
- 2) For Grounding detail see Secondary Box Grounding.DWG.
- 3) Standard Offset to be 5' (1.5 M) unless otherwise specified.
- 4) For level grades, box to be set so that lid is 2" – 3" (50–80 mm) above final grade or flush in sidewalk.
- 5) Extend conduit 2" – 4" (50–100 mm) into box.



Nelson Hydro Underground Standard Secondary Pull Box Service Box Duct Entrance

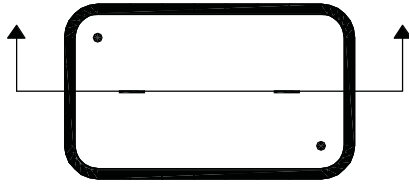
DRAWING NO.

Secondary Box Layout

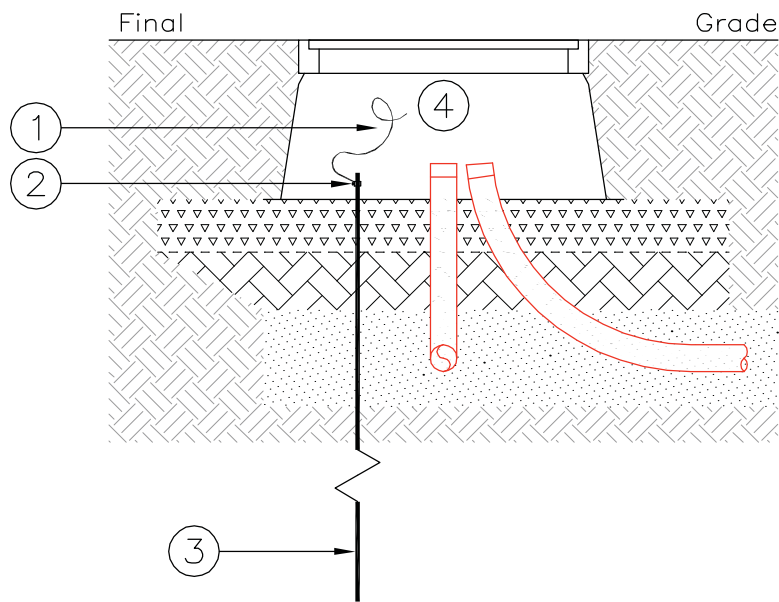
DATE: 07/02/05


REV: 0

Plan View



Section View



-  Native Fill
-  1" (25) Drain Rock
-  Clean Compacted Fill
-  3/16" (5) Screened Compacted Sand

NOTE:

Placement of Transformer Bases and Pull Boxes to be determined by Nelson Hydro prior to any excavation, & Inspected prior to backfilling.

Notes:

- 1) Ground Rod shall be installed prior to installing other utilities to avoid damage to other utilities.
- 2) For grades and duct placement see Secondary Box Layout.DWG.

4	1	073410	Box & Lid	
3	1	53824310	Rod, Ground, Copperweld 5/8" x 6'	
2	1	17312000	Connector, Bronze, 5/8"	Trydor #1377-1
1	1M	74044166	Cable, #4, Welding, Copper, 7RX59STR	
Item	QTY	Stock #	Description	Notes



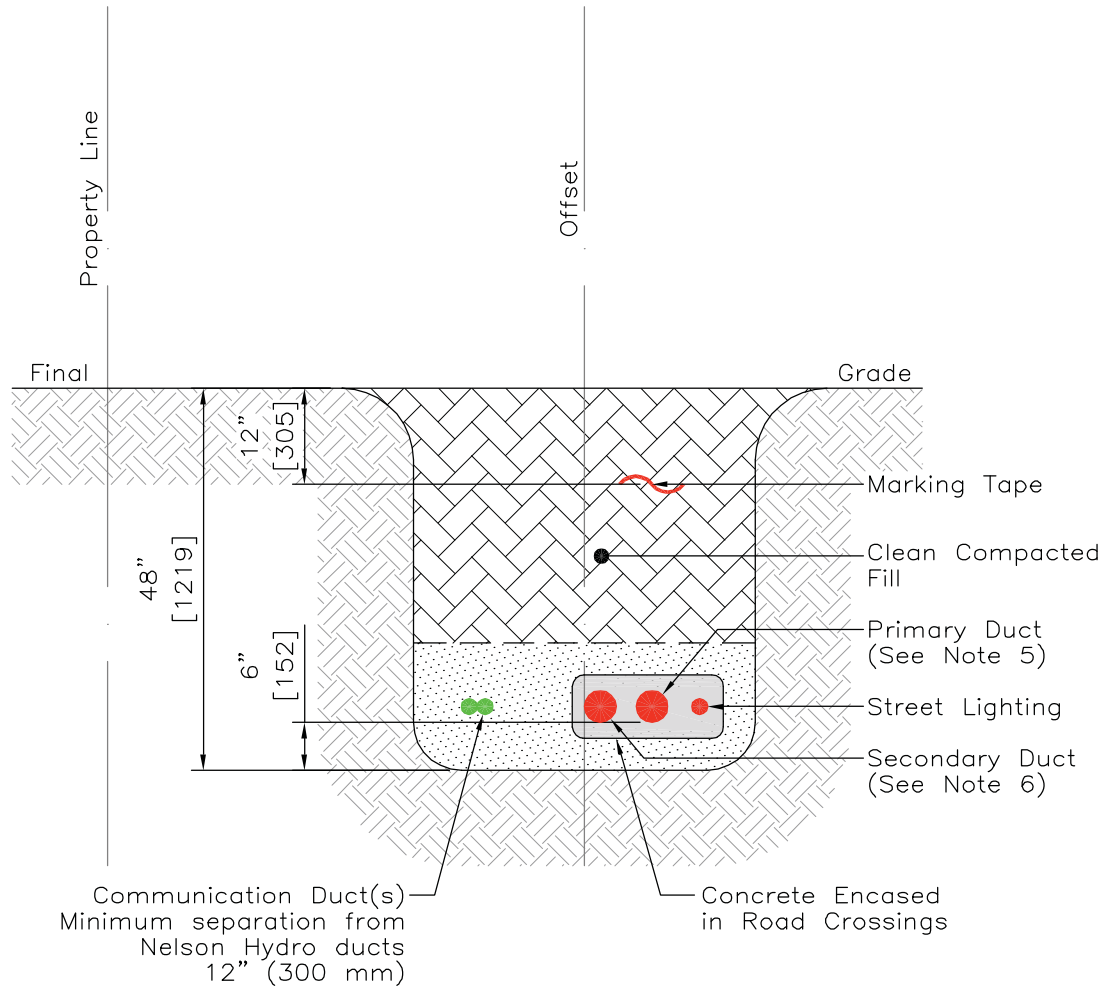
Nelson Hydro Underground Standard Secondary Pull Box Grounding Detail





DRAWING NO.

Secondary Box Grounding

DATE: 07/02/05

REV: 0



-  Native Fill
-  Clean Compacted Fill
-  3/16" (5) Screened Sand Compacted
-  Concrete in Road Crossings

NOTE:
Offset(s) to Property Line
to be determined
by Nelson Hydro
prior to any excavation,
& Inspected prior to
backfilling.

Notes:

- 1) Hydro Duct must be located on road side of Property Line.
- 2) Correct Offset must be maintained to avoid conflict with other utilities.
- 3) Minimum separation to Telus & Shaw Cable to be not less than 12" (300mm). Minimum separation to Other Utilities to be not less than 40" (1000mm).
- 4) Where more than one Primary Duct is required, a minimum separation of 3" (80 mm) is required.
- 5) Primary Duct
 Single Phase 4" (100 mm) DB2 or RPVC Duct
 Three Phase 4" (100 mm) DB2 or RPVC Duct
- 6) Secondary Duct
 Single Run use 4" (100 mm) DB2 or RPVC Duct
 Double Run use 4" (100 mm) DB2 or RPVC Duct
 House Service use 3" (80 mm) DB2 or RPVC
- 7) Any duct crossing under a roadway shall be encased in minimum 2" (50 mm) concrete.



Nelson Hydro Underground Standard Primary & Secondary Trench Cross Section

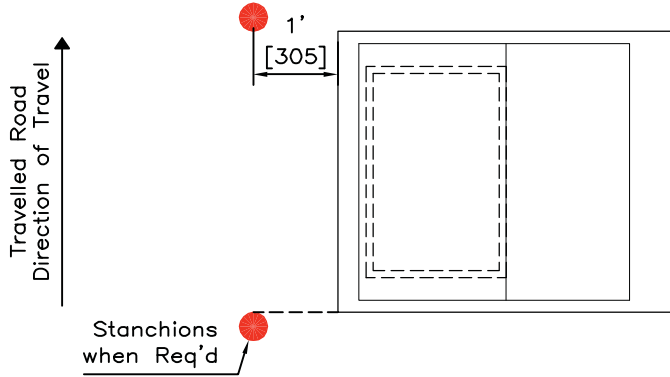
DRAWING NO.

Trench Detail

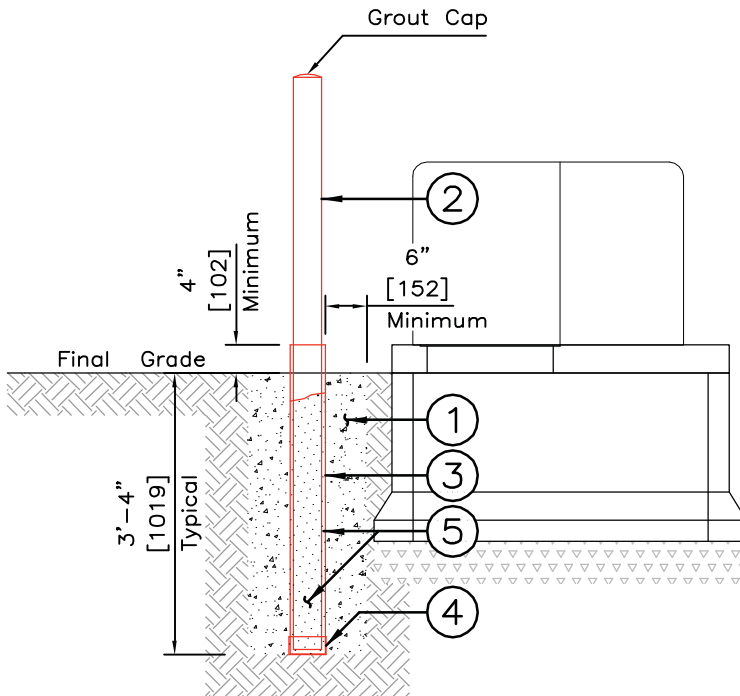
DATE: 07/02/05





REV: 0

Plan View



Section View



-  Native Fill
-  1" (25) Drain Rock
-  Concrete
-  Grout

Procedure:

- 1) Excavate as shown or use "Sonotube" forming.
- 2) Glue plastic cap to plastic pipe or conduit, forming a waterproof joint. Place the plastic pipe or conduit in excavation.
- 3) Pour concrete around plastic pipe or conduit.
- 4) Fill the plastic pipe or conduit with a thin mix of non-shrinking grout.
- 5) Push steel pipe into plastic pipe or conduit.
- 6) Fill the steel pipe up with grout and form a cap to shed water.

Notes:

- 1) Plastic cap (Item 4) shall be glued to plastic pipe or conduit with cement to form a waterproof joint.
- 2) Stanchions shall be placed so as not to obstruct any doors nor restrict the operation of the unit.
- 3) THE PLASTIC PIPE OR CONDUIT AND CAP MUST BE INSTALLED TO INSULATE THE PIPE AND THUS PREVENT TRANSFER OF DANGEROUS TOUCH POTENTIAL IN THE EVENT OF A FAULT.

5	0.2 Cu. M	N/A	Grout	Contractor	Contractor
4	1	N/A	Cap for Item 4	Contractor	Contractor
3	1	N/A	Pipe or conduit, rigid plastic, 1.2M long, 5" nom. dia.	Contractor	Contractor
2	1	250-0059	Pipe, Galv. steel, 4" nominal diameter	Contractor	Contractor
1	As Req'd	N/A	Concrete (0.15 Cu. M. Min.)	Contractor	Contractor
Item	QTY	Stock #	Description	Supplied by	Installed by

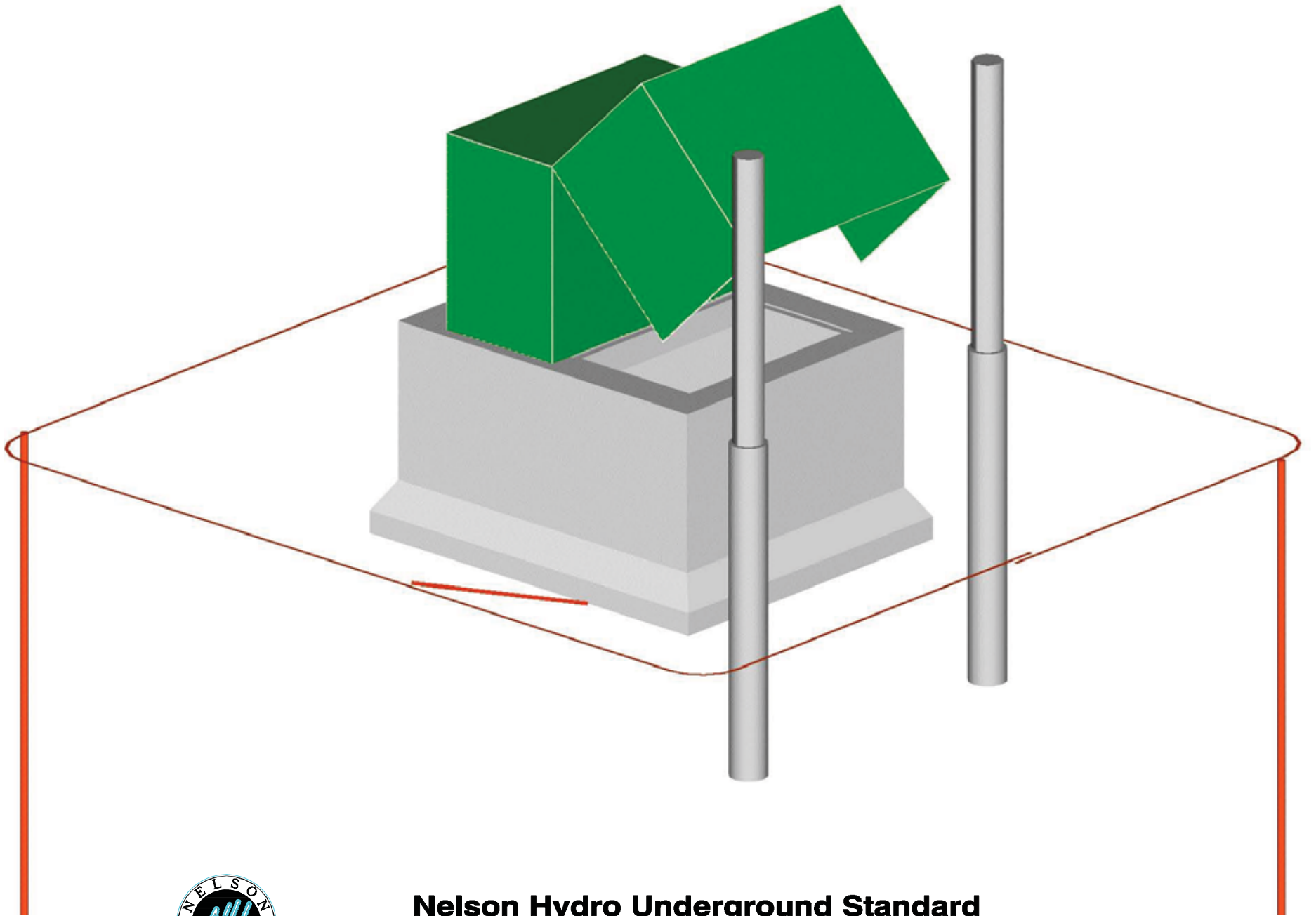


Nelson Hydro Underground Standard Stanchions Installation Details

DRAWING NO.

Stanchions

DATE: 04/03/03 REV: 0



**Nelson Hydro Underground Standard
Single Phase Primary Transformer**

Installed unit in 3d